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SUMMER SCHOOLS IN NUCLEAR AND RADIOCHEMISTRY*

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This successful educational program for advanced undergraduate students to make them aware of the many challenges and career opportunities in nuclear science will be described. Perhaps it can serve as a model for similar programs in other countries where there is continuing need for trained personnel in the various areas of nuclear science. The story of its founding at San Jose State University (SJSU) in 1984 will be summarized, along with the establishment of a second site at the Brookhaven National Laboratory (BNL) in 1989. Funding now from the U. S. Department of Energy supports 24 fellowships for participation in the simultaneous, intensive, six-week summer schools. Students are provided transportation to and from the school site, lodging and food, text and reference books, laboratory supplies, and tuition for six units of transferable college credit through the American Chemical Society (ACS) accredited chemistry programs at SJSU or the State University of New York at Stony Brook.

The instructional program consists of lectures and laboratory exercises that cover the fundamentals of nuclear theory and radioactive decay, radiochemistry, nuclear instrumentation, radiological safety, and applications in research, medicine, and industry. Guest lecturers and seminar speakers cover their own specialties and broaden the students' exposure to the various aspects of nuclear science. Emphasis is placed on making the students aware of the many challenges and career opportunities available, as well as the needs for personnel at various degree levels to work in the universities, national laboratories, nuclear power industry, medical facilities, and in environmental clean-up and waste disposal and management activities. Both sites employ field trips to nearby nuclear facilities to show the students first-hand some potential work environments and to facilitate their interaction with nuclear science practitioners. This obvious recruiting mechanism has been successful in attracting students into at least considering further education and training in some aspect of the nuclear sciences, if not actually pursuing it and becoming a nuclear science practitioner themselves.

Graduates of the summer school who request it are given assistance in the following year(s) to join a research project at a university or national laboratory, and also, in their applications to graduate or professional school. Building on the knowledge gained during the summer school, they are strongly encouraged to pursue a hands-on activity in some aspect of nuclear science that interests them during a following term or summer. Keeping them involved with nuclear science increases the chances that they will continue their education and training toward a career in some aspect of it. This is aided by the networking that naturally occurs and the continued mentoring, advice, and encouragement from the summer school staff.

Each school site identifies its Outstanding Student, and these two students are rewarded with an expense-paid trip to the fall national meeting of the ACS. They are encouraged to attend the scientific sessions, participate in the society's programs for undergraduate students, and network with other chemists and nuclear scientists. This summer school program has attracted a number of students into careers in nuclear science and medicine. In addition it has produced academicians, physicians, researchers, and industrial scientists who have been made aware of the many benefits of nuclear science and *some* of its challenges. Additional information about the summer school program and its student participants can be found at URL <http://www.cofc.edu/~nuclear/nukess.html>